Log Event A

Borehole 30-00-13

Borehole Information

Farm : C	**Tank :** C	**Site Number :** 299-E27-124
N-Coord : 43,150	**W-Coord :** 48,500	**TOC Elevation :** Unknown
Water Level, ft : 48.05	**Date Drilled :** 3/31/1977	

Casing Record

Type : Steel-welded	Thickness : 0.280	ID, in. : 6
Top Depth, ft. : 0	Bottom Depth, ft. : 60	

Cement Bottom, ft. : 60 **Cement Top, ft. :** 0

Borehole Notes:
A driller's log was not available for this borehole. However, some information regarding the location and a limited amount of construction data are available in Chamness and Merz (1993). According to Chamness and Merz (1993), this borehole was drilled in March 1977 and completed to a depth of 60 ft with 6-in.-diameter casing. Chamness and Merz (1993) indicate the borehole was grouted; however, specifics regarding the location of the grout were not given. The casing thickness is assumed to be 0.280 in., on the basis of the published thickness for schedule-40, 6-in. casing.

The top of the casing is the zero reference for the log. The casing lip is approximately even with the ground surface.

Equipment Information

Logging System : 2	**Detector Type :** HPGe	**Detector Efficiency:** 35.0 %
Calibration Date : 10/1996	**Calibration Reference :** GJO-HAN-13	**Logging Procedure :** P-GJPO-1783

Log Run Information

Log Run Number :	1	**Log Run Date :**	04/08/1997	**Logging Engineer:**	Bob Spatz
Start Depth, ft.:	0.0	**Counting Time, sec.:**	100	**L/R :** L	**Shield :** N
Finish Depth, ft. :	10.0	**MSA Interval, ft. :**	0.5	**Log Speed, ft/min.:**	n/a

Log Run Number :	2	**Log Run Date :**	04/09/1997	**Logging Engineer:**	Bob Spatz
Start Depth, ft.:	9.0	**Counting Time, sec.:**	100	**L/R :** L	**Shield :** N
Finish Depth, ft. :	55.0	**MSA Interval, ft. :**	0.5	**Log Speed, ft/min.:**	n/a

Log Event A

Borehole # 30-00-13

Analysis Information

Analyst : S.D. Barry

Data Processing Reference : MAC-VZCP 1.7.9 Analysis Date : 11/12/1997

Analysis Notes :

This borehole was logged by the SGLS in two log runs. The pre- and post-survey field verification spectra met the acceptance criteria established for the peak shape and detector efficiency, confirming that the SGLS was operating within specifications. The energy calibration and peak-shape calibration from these spectra were used to establish the peak resolution and channel-to-energy parameters used in processing the spectra acquired during the logging operation. There were no fine gain adjustments made during these log runs.

Casing correction factors for a 0.280-in.-thick steel casing were applied during analysis.

The only man-made radionuclide detected around this borehole was Cs-137. The Cs-137 contamination was detected nearly continuously from the ground surface to 1.5 ft.

The K-40 concentrations increase at about 5 ft, become variable from 5 to 47 ft, and decrease below a depth of 47 ft.

Except at the ground surface, the measured Cs-137 concentration values were well below the 1 count-per-second threshold for calculating shape factor SF1. Therefore, an analysis of the shape factors was not performed.

Additional information and interpretations of log data are included in the main body of the Tank Summary Data Report for tank C-112.

Log Plot Notes:

Separate log plots show the man-made and the naturally occurring radionuclides. The natural radionuclides can be used for lithology interpretations. The headings of the plots identify the specific gamma rays used to calculate the concentrations.

Uncertainty bars on the plots show the statistical uncertainties for the measurements as 95-percent confidence intervals. Open circles on the plots give the MDL. The MDL of a radionuclide represents the lowest concentration at which positive identification of a gamma-ray peak is statistically defensible.

A combination plot includes the man-made and natural radionuclides, the total gamma derived from the spectral data, and the Tank Farms gross gamma log. The gross gamma plot displays the latest available digital data. No attempt has been made to adjust the depths of the gross gamma logs to coincide with the SGLS data.